



226460

II
7/31/01**KERR-MCGEE**

800 WEYRAUCH STREET • WEST CHICAGO, ILLINOIS 60185

July 31, 2001

FLKE-001

PHONE

630-293-6330

VIA FIRST CLASS MAIL

TO: Mr. Fred Micke
Acting On-Scene Coordinator
Illinois/Indiana Remedial Response Branch
U.S. EPA, Region 5
77 W. Jackson Blvd. (SE-5J)
Chicago, Illinois 60604-3590

SUBJECT: Surface Gamma Survey and Diagnostic Sampling

REFERENCE: DuSable Park, Chicago, IL

Dear Mr. Micke:

The following is Kerr-McGee Chemical LLC's results of the surface gamma survey and diagnostic sampling performed on June 15th and July 3rd, 2001 at the DuSable Park Site in Chicago, IL.

Please call me at (630) 293-6331 with any questions you may have.

Very truly yours,

KERR-MCGEE CHEMICAL LLC

Mark Krippel
Program Manager

Attachments
cc: H. Holmberg

DuSable Park

Chicago, IL

Surface Gamma Survey and Diagnostic Sampling

June 15th & July 3rd, 2001

Prepared by:

**Kerr-McGee Chemical LLC
Bernie Bono, Senior Staff Engineer
July 31, 2001**

Surface Gamma Survey

On 6/15/01, Kerr-McGee personnel performed a surface gamma walkover survey in three areas corresponding to the highest activity areas shown on the USEPA's gamma survey drawing for the property. The Site was laid out in a 10-meter grid using a steel tape, with the northern sheet pile wall along Ogden Slip as a baseline. A map showing the surface locations and gamma survey results is attached to this summary.

A surface radiological survey was performed using the procedure described in Kerr-McGee Standard Operating Procedure (SOP) 210 – Gamma Radiological Surveys. A 2-inch by 2-inch NaI gamma detector (#PR 146300) was used with a Ludlum Model 2221 portable scaler ratemeter (#148418). The meter and probe had been previously calibrated for a value of 6,621 counts per minute (cpm) corresponding to 7.2 picoCuries/gram (pCi/g).

The first area (Area A), in the north-central side of the Site, had a maximum surface gamma measurement of 4,900 cpm (5.3 pCi/g). An eighteen-inch diameter hole, approximately one-foot deep was excavated by hand using a shovel. Gamma readings in the hole (with well geometry effect) were 8,100 cpm.

The second area (Area B), in the west-central side of the Site at the end of North Water Street, had a maximum surface gamma measurement of 6,100 cpm (6.6 pCi/g). An eighteen-inch diameter hole, approximately one-foot deep was excavated by hand using a shovel. Gamma readings in the hole (with well geometry effect) were 17,000 cpm.

The third area (Area C), on the south-central side of the Site, had a maximum surface gamma measurement of 4,400 cpm (4.8 pCi/g). An eighteen-inch diameter hole, approximately six-inches deep was excavated by hand using a shovel. Gamma readings in the hole (with well geometry effect) were 10,100 cpm.

The excavated soil from the test pits was carefully placed back into hole and the topsoil/grass cover (Areas A & B) or gravel (Area C) was placed back over the fill soil.

Soil Sampling

On 7/3/01, Kerr-McGee personnel collected one soil sample of the previously excavated material from each of the three identified areas. Soil sampling was performed using the procedure described in Kerr-McGee SOP 214 – Soil Sampling. Samples were collected by hand excavation using a shovel. Approximately four to eight pounds of material was excavated from each area. The samples were placed into individual plastic bags. A sample tracking form was completed. The samples were then transported to Kerr-McGee's West Chicago REF analytical laboratory for radiological analysis. The laboratory results have been attached to this summary.

In Area A, the surface layer consisted of a two-inch thick layer of topsoil with prairie vegetation. This material was placed aside and the soil sample was collected from the next six-inch interval below the root zone. The sampled material consisted of soil, cinders and some brick pieces. The lab results of this sample were 2.6 pCi/g (TH-232 + RA-226).

In Area B, the surface layer also consisted of a two-inch thick layer of topsoil with prairie vegetation. This material was placed aside and the soil sample was collected from the next six-inch interval below the root zone. The sampled material consisted of soil, cinders, clay, debris and some brick pieces. The lab results of this sample were 6.5 pCi/g (TH-232 + RA-226).

In Area C, the surface layer consisted of a two-inch thick layer of dense gravel. This material was placed aside and the soil sample was collected from the next six-inch interval below the gravel. The sampled material consisted of crushed coal (not cinders) and soil. The lab results of this sample were 2.6 pCi/g (TH-232 + RA-226).

At the West Chicago REF laboratory the samples were prepared in accordance with SOP-WCP-364-3 – Sample Preparation Procedure for Gamma Spectral Analysis. The samples were counted in accordance with SOP-WCP-363-2 – Operation and Calibration of the Canberra HPGe Gamma Detector.

The spectral analysis procedure used by the REF laboratory determines the activity of Thorium-232 by measuring the activity of its direct daughter, Actinium-228 (AC-228). Similarly, the activity of Radium-226 is determined by measuring the activity of its direct daughter, Bismuth-214 (Bi-214).

File LL2 – 1.4-1-3

TITLE
DuSable Park Survey - Chicago, ILDATE
6/15/01

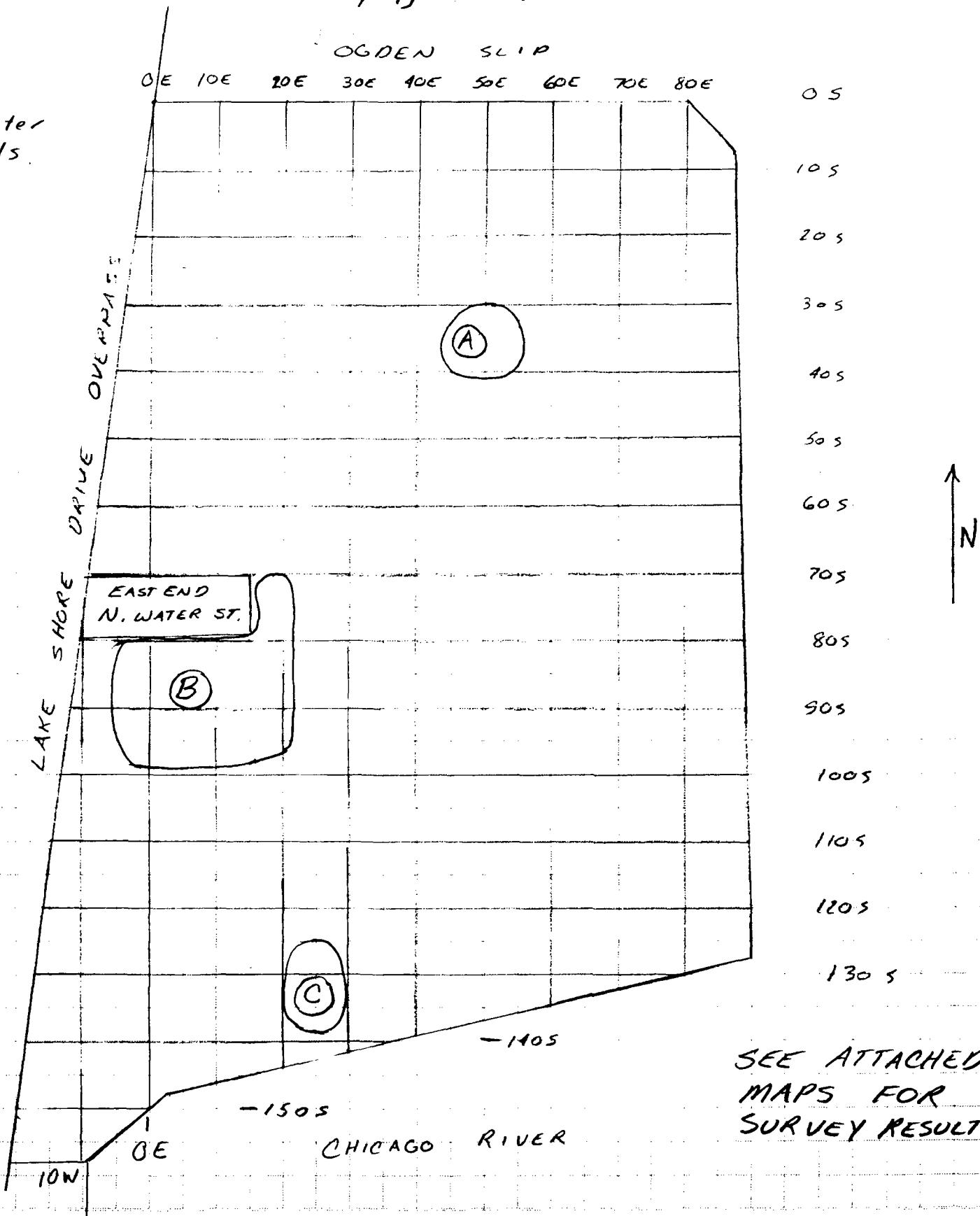
W.O. NO / A.F.E. NO

Meter 2221 - # 148418
Probe # PR 146300

$$7.2 \text{ pCl/g} = 6621 \text{ cpm}$$

PREPARED BY
S. Wallace, B. Bono

CHECKED BY

10 meter
grids.

CALCULATION SHEET KM-2056

TITLE Dusa 61r Park

SHEET

2 Of 4

DATE

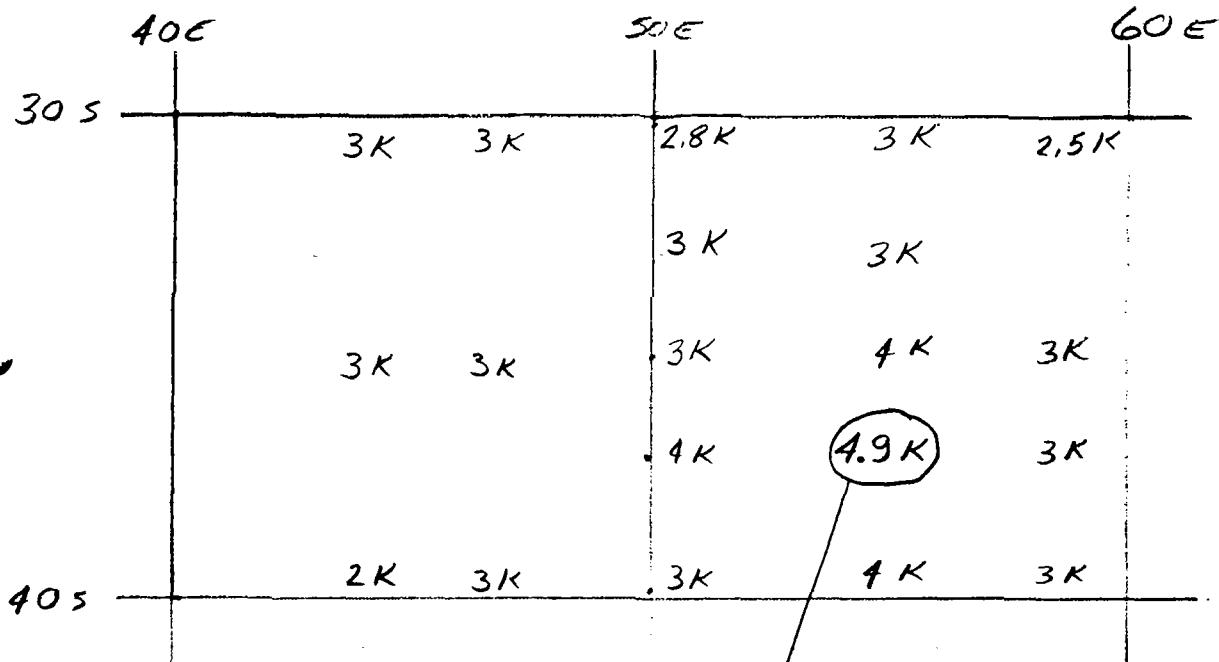
6/15/01

W.O. NO./A.F.E. NO.

PREPARED BY

Wallace/Bono

CHECKED BY

AREA A

TEST PIT
18" ϕ , 12" DEEP
REMOVED ~2" TOP SOIL.
MATERIAL: CINDER, DIRT, BRICKS
(TYPICAL URBAN FILL)

8.1 K cpm @ 12"

$$7.2 \text{ pCi/l} = 662 \text{ cpm}$$

$$K = 1000$$

$$13 \text{ kgd} \quad 2.1 - 2.4 \text{ K cpm}$$

Du Sable Park

DATE

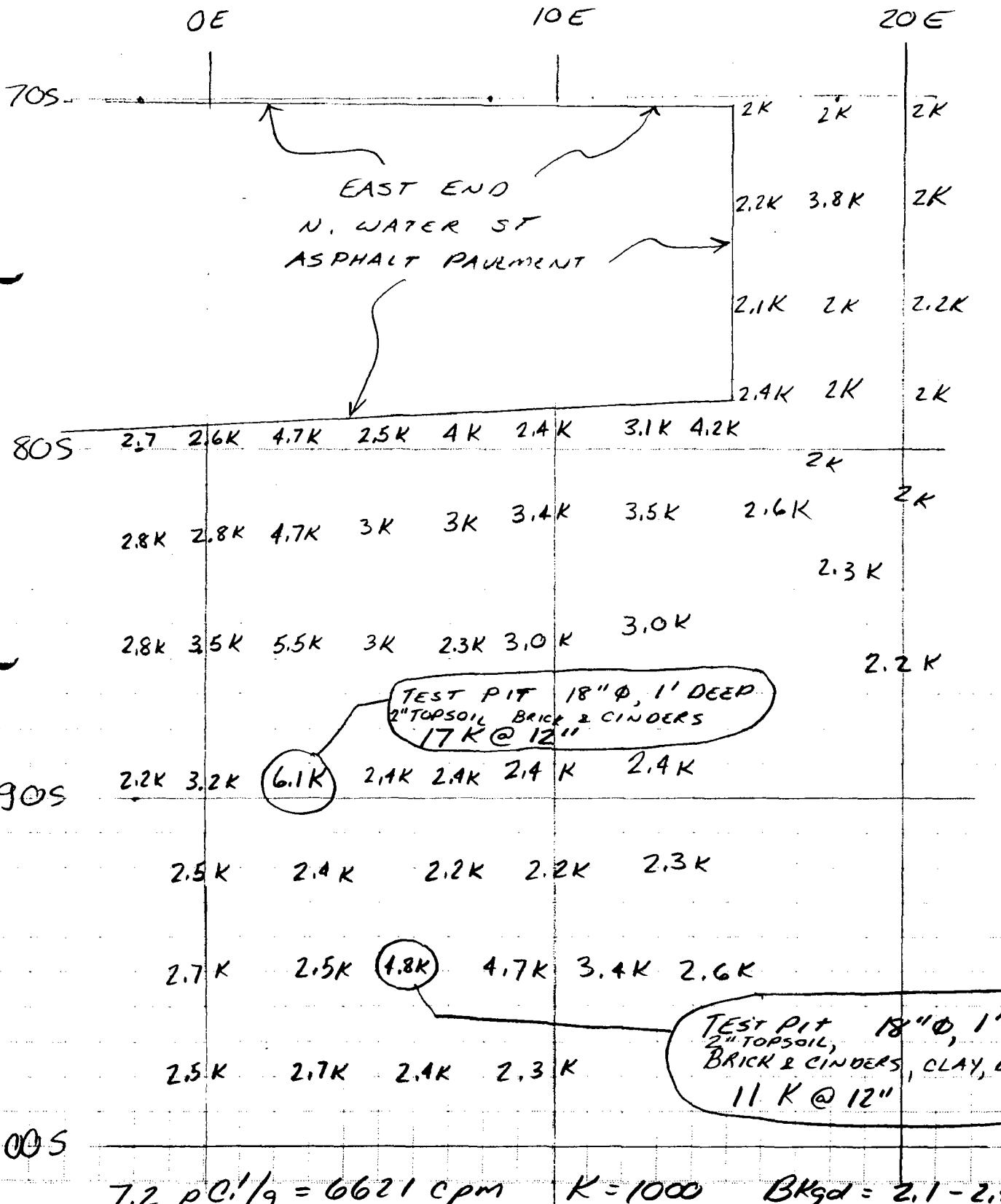
6/15/01

PREPARED BY

Wallace/Bono

W.O. NO./A.F.E. NO.

CHECKED BY

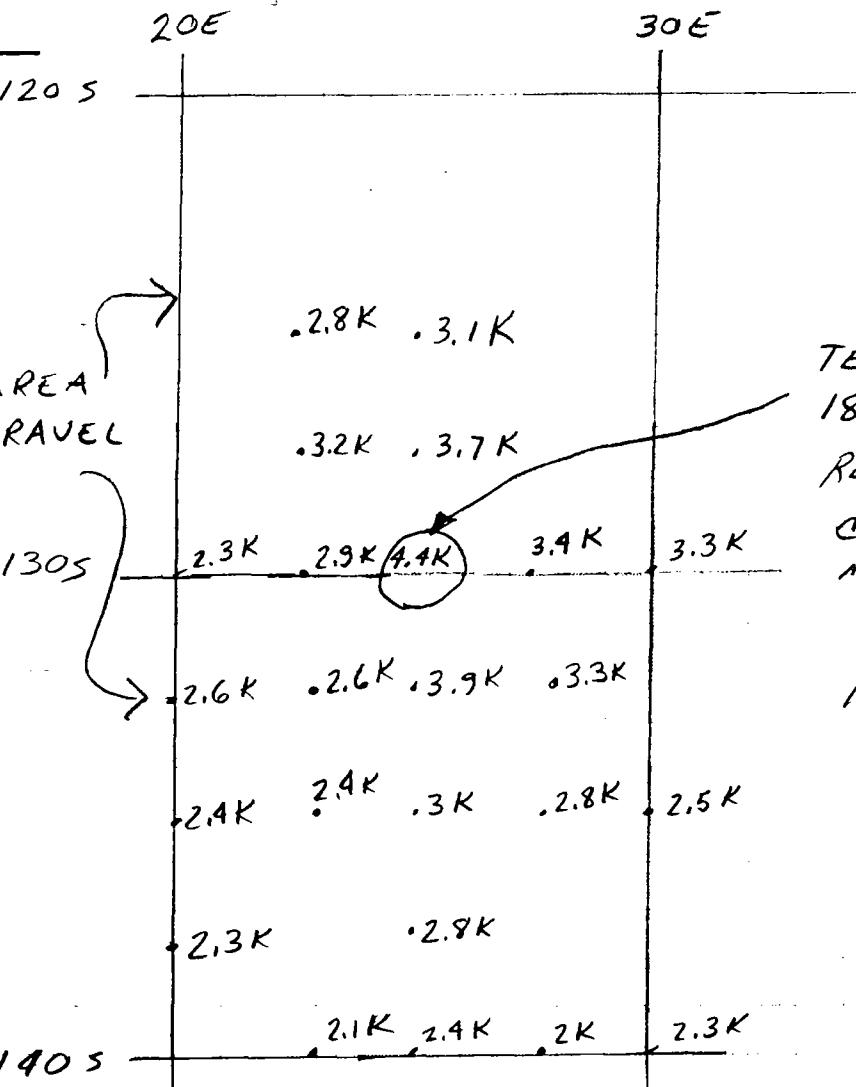
AREA B

SHEET 4 Of 4
W.O. NO./A.F.E NO
CHECKED BY

TITLE Dousable Park

DATE 6/15/01

PREPARED BY Wallace/Bone

AREA C.

TEST PIT
18" Ø, 6" DEEP
REMOVED GRAVEL,
CRUSHED COAL-LIKE
MATERIAL AT
6" DEPTH.
10.1 Kcpm @ 6"

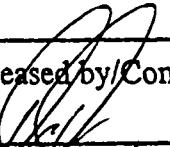
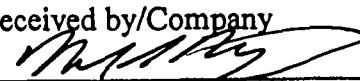
$$7.2 \text{ pCi/g} = 6621 \text{ cpm}$$

$$K = 1000$$

Bkgd. 2.1 - 2.4 Kcpm

SAMPLE TRACKING FORMS

Date: 7/3/01Page 1 of 1

Sample Number	Matrix (S/W)	Location	Collected For	Comments	Collected By
DP001	S	DUSABLE PARK "A"	& Spec (all)	Information only Marinelli	D ³
DP002	S	DUSABLE PARK "B"	& SPEC		D ³
DP003	S	DUSABLE PARK "C"	& Spec		D ³
<p>NOTE: 2" of Top Soil was removed prior to collecting samples. The samples were collected from the next 6" of material. D³ 7/1/01</p> <p>2" of Gravel was removed prior to collecting sample "C". The sample was collected from the next 6" of material. D³ 7/1/01</p>					
Released by/Company  TRS	All samples are listed above are hereby released except for: NA	Date/Time 7/3/01 / 1350			
Received by/Company  TEKDO	All samples are listed above are hereby received except for: N/A	Date/Time 7/3/01 / 1310			
Received by/Company  IKMEL	Data for all samples listed above are hereby received except for:	Date/Time 7/9/01 / 1550			

CALCULATION SHEET

KM-2056

SHEET

1 Of 4

TITLE
DuSable Park Survey - Chicago, ILDATE
6/15/01

Meter 2221 - # 148418

W O N O / A F E N O

Probe # PR 146300

PREPARED BY
S. Wallace, B. Bono

CHECKED BY

$$7.2 \text{ pC/g} = 6621 \text{ cpm}$$

OGDEN SLIP

0E 10E 20E 30E 40E 50E 60E 70E 80E

10 meter
grids.

0 S

10 S

20 S

30 S

40 S

50 S

60 S

70 S

80 S

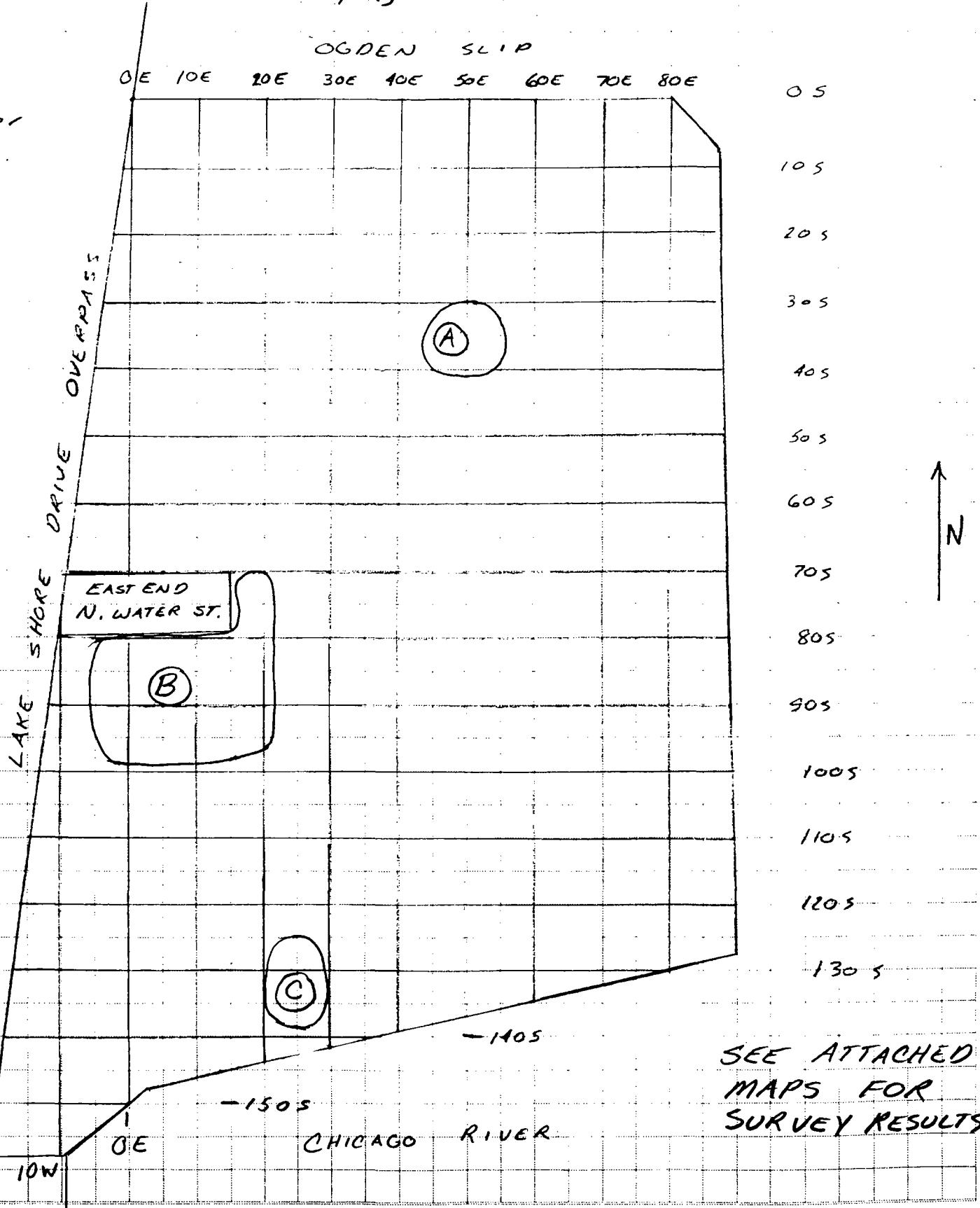
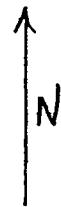
90 S

100 S

110 S

120 S

130 S



Configuration : DKA200:[GAMMA.SCUSR.ARCHIVE]SMP_DP001_GE2_FVSU_69944.CNF;1

---- Sample Information ----

Sample Title : Dusable Park
 Sample ID : DP001 Sample Quantity : 1.30740E+03 gram
 Sample Type : Sample Geometry :
 Sample Number : 69944 Spctrm Collector : RAY LANCASTER
 Analyzed By :

AREA A

---- Sample Decay/Count Information ----

Sample Date : 6-JUL-2001 00:00:00. Acquisition date : 6-JUL-2001 14:01:49.
 Decay time : 0 14:01:49.13 % dead time : 0.1%
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:02.44

---- Detector Parameters ----

Energy cal. time : 13-MAR-2001 08:04:40 Energy cal. oper.: RAY LANCASTER
 Detector name : GE2 Counting geometry: FVSU
 Effic. cal. time : 13-MAR-2001 13:14:45 Effic. cal. oper.: RAY LANCASTER

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/gram)	Act error	MDA (pCi/gram)	MDA error	Act/MDA
K-40	9.182E+00	9.194E-01	3.176E-01	0.000E+00	28.913
TL-208	5.873E-01	2.164E-01	4.121E-02	0.000E+00	14.251
PB-210	1.777E+00	9.729E-01	1.103E+00	0.000E+00	1.611
BI-212	1.063E+00	7.684E-01	3.021E-01	0.000E+00	3.519
PB-212	1.344E+00	8.347E-02	6.779E-02	0.000E+00	19.829
BI-214	1.268E+00	1.076E-01	7.465E-02	0.000E+00	16.989
PB-214	1.348E+00	9.903E-02	8.260E-02	0.000E+00	16.318
AC-21	1.374E+00	1.478E-01	1.391E-01	0.000E+00	9.873
TH-234	1.942E+00	9.790E-01	6.497E-01	0.000E+00	2.989
U-235	1.851E-01	5.382E-02	5.923E-02	0.000E+00	3.125

*1.27**1.37**2.64*

---- Non-Identified Nuclides ----

Nuclide	Key-Line		MDA (pCi/gram)	MDA error	Act/MDA
	Activity (pCi/gram)	K.L. Ided			
PA-234	5.994E-01	2.841E+00	4.711E+00	0.000E+00	0.127

Reviewed

Date: 7/6/01By: J. Deem*MGP
7-9-01*

Nuclide Type: Natural

Uncorrected Decay Corr 2-Sigma

Nuclide	Energy	%Abn	%Eff	pCi/gram	pCi/gram	%Error	Status
<-40	1460.81	10.67*	5.910E-01	9.182E+00	9.182E+00	10.01	OK

Final Mean for 1 Valid Peaks = 9.182E+00 +/- 9.194E-01 (10.01%)

PL-208	277.35	6.80	2.293E+00	4.469E-01	4.469E-01	84.16	OK
	583.14	84.20*	1.292E+00	4.186E-01	4.186E-01	14.94	<<WM Interf
	860.37	12.46	9.167E-01	6.568E-01	6.568E-01	40.27	OK

Final Mean for 2 Valid Peaks = 5.873E-01 +/- 2.164E-01 (36.84%)

PB-210	46.50	4.05*	2.019E+00	1.777E+00	1.777E+00	54.76	OK
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Final Mean for 1 Valid Peaks = 1.777E+00 +/- 9.729E-01 (54.76%)

BI-212	727.17	11.80*	1.066E+00	7.017E-01	7.017E-01	60.31	<<WM Interf
	1078.62	0.95	7.502E-01	-----	Line Not Found	-----	Absent
	1620.62	2.75	5.543E-01	1.063E+00	1.063E+00	72.27	OK

Final Mean for 1 Valid Peaks = 1.063E+00 +/- 7.684E-01 (72.27%)

PB-212	115.19	0.60	3.710E+00	-----	Line Not Found	-----	Absent
	238.63	44.60*	2.540E+00	1.341E+00	1.341E+00	6.27	OK
	300.09	3.41	2.170E+00	1.539E+00	1.539E+00	44.10	OK

Final Mean for 2 Valid Peaks = 1.344E+00 +/- 8.347E-02 (6.21%)

BI-214	609.31	46.30*	1.244E+00	1.257E+00	1.257E+00	9.99	OK
	768.36	5.04	1.015E+00	5.806E-01	5.806E-01	106.93	OK
	1120.29	15.10	7.262E-01	1.165E+00	1.165E+00	34.35	OK
	1238.11	5.94	6.685E-01	1.289E+00	1.289E+00	73.14	OK
	1377.67	4.11	6.158E-01	8.092E-01	8.092E-01	91.11	OK
	1764.49	15.80	5.314E-01	1.663E+00	1.663E+00	21.87	OK
	2204.22	4.98	5.061E-01	1.549E+00	1.549E+00	34.30	OK

Final Mean for 7 Valid Peaks = 1.268E+00 +/- 1.076E-01 (8.48%)

AC-228	93.35	3.50	3.825E+00	2.850E+00	2.850E+00	25.01	<<WM Interf
	209.28	4.40	2.766E+00	1.120E+00	1.120E+00	47.52	OK
	338.32	11.40	1.989E+00	1.506E+00	1.506E+00	21.00	OK
	583.20	0.14	1.292E+00	2.518E+02	2.518E+02	14.94	<<WM Interf
	727.00	0.78	1.066E+00	1.061E+01	1.061E+01	60.31	<<WM Interf
	911.07	27.70*	8.708E-01	1.294E+00	1.294E+00	18.26	OK
	969.11	16.60	8.241E-01	1.443E+00	1.443E+00	18.28	OK
	1459.30	1.00	5.914E-01	9.791E+01	9.791E+01	10.01	<<WM Interf

Final Mean for 4 Valid Peaks = 1.374E+00 +/- 1.478E-01 (10.76%)

TH-234	63.29	3.39*	3.246E+00	1.942E+00	1.942E+00	50.42	OK
	92.59	4.49	3.824E+00	2.224E+00	2.224E+00	25.01	<<WM Interf

Final Mean for 1 Valid Peaks = 1.942E+00 +/- 9.790E-01 (50.42%)

Sample ID : DP001

Acquisition date : 6-JUL-2001 14:01:49

Nuclide Type: Natural

Uncorrected Decay Corr 2-Sigma							
Nuclide	Energy	%Abn	%Eff	pCi/gram	pCi/gram	%Error	Status
J-235	93.35	4.50	3.825E+00	2.217E+00	2.217E+00	25.01	<<WM Interf
	143.76	13.65*	3.412E+00	-----	Line Not Found	-----	Absent
	163.35	7.12	3.199E+00	-----	Line Not Found	-----	Absent
	185.71	54.00	2.975E+00	1.851E-01	1.851E-01	29.08	OK

Final Mean for 1 Valid Peaks = 1.851E-01 +/- 5.382E-02 (29.08%)

Nuclide Type: Narural

Uncorrected Decay Corr 2-Sigma							
Nuclide	Energy	%Abn	%Eff	pCi/gram	pCi/gram	%Error	Status
PB-214	241.98	7.49	2.517E+00	2.496E+00	2.496E+00	19.25	OK
	295.21	19.20	2.195E+00	1.371E+00	1.371E+00	15.14	OK
	351.92	37.20*	1.932E+00	1.274E+00	1.274E+00	9.10	OK

Final Mean for 3 Valid Peaks = 1.348E+00 +/- 9.903E-02 (7.35%)

Flag: "*" = Keyline

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	40.23	31	193	0.78	80.26	78	5	1.73E-02	69.5	
2	0	46.15	126	361	1.29	92.07	89	8	7.03E-02	27.4	
3	0	53.28	86	437	0.85	106.33	103	8	4.76E-02	43.6	
4	0	62.79	186	675	0.72	125.33	121	8	1.03E-01	25.2	
5	2	74.78*	735	550	1.07	149.30	143	18	4.08E-01	6.2	2.97E+00
6	2	77.03*	1048	477	0.93	153.79	143	18	5.82E-01	4.6	
7		87.21*	373	617	1.35	174.15	163	29	2.07E-01	12.5	2.75E+00
8	5	89.81	211	435	1.03	179.34	163	29	1.17E-01	17.2	
9	5	92.84	332	471	1.25	185.41	163	29	1.85E-01	12.5	
10	0	128.91	70	277	0.77	257.50	256	5	3.89E-02	37.4	
11	0	154.13	87	388	1.51	307.91	304	8	4.84E-02	40.7	
12	0	186.15	259	348	1.18	371.91	368	9	1.44E-01	14.5	
13	0	193.72	42	249	1.04	387.04	384	7	2.33E-02	64.1	
14	0	209.27	119	244	0.92	418.13	414	7	6.59E-02	23.8	
15	4	238.66	1323	164	1.04	476.88	471	18	7.35E-01	3.1	1.34E+00
16	4	241.70	410	206	1.62	482.95	471	18	2.28E-01	9.6	
17	0	258.51	27	161	1.32	516.56	514	7	1.50E-02	80.3	
18	0	270.18	161	236	1.63	539.90	534	12	8.92E-02	20.7	
19	0	277.58	61	181	0.72	554.70	551	9	3.37E-02	42.1	
20	0	288.34	56	156	1.32	576.20	572	10	3.12E-02	43.8	
21	0	295.22	503	235	1.20	589.96	583	12	2.79E-01	7.6	
22	0	300.09	99	123	1.37	599.70	596	8	5.51E-02	22.0	
23	0	328.14	93	151	1.55	655.77	651	11	5.17E-02	27.6	
24	0	338.54	297	160	1.23	676.57	671	13	1.65E-01	10.5	
25	0	351.89	797	141	1.21	703.26	699	11	4.43E-01	4.6	
26	0	440.28	15	76	1.57	880.00	874	9	8.06E-03	111.7	
27	0	463.20	93	104	1.81	925.83	920	14	5.17E-02	25.5	
28	0	510.87*	158	106	1.62	1021.16	1012	17	8.76E-02	17.5	
29	0	583.39	396	101	1.55	1166.20	1160	15	2.20E-01	7.5	

39	0	609.49	630	79	1.41	1218.41	1212	14	3.50E-01	5.0
31	0	663.23	16	64	1.46	1325.89	1318	10	8.89E-03	97.3
32	0	728.07	77	94	1.67	1455.60	1448	15	4.27E-02	30.2
33	0	769.18	26	53	0.93	1537.85	1533	8	1.44E-02	53.5
34	0	786.34	22	58	0.96	1572.17	1563	13	1.20E-02	75.8
35	0	795.52	45	46	2.07	1590.54	1581	14	2.50E-02	35.2
36	0	835.53	23	27	1.39	1670.58	1664	12	1.28E-02	51.2
37	0	860.52	65	27	1.95	1720.59	1715	12	3.63E-02	20.1
38	0	869.92	13	21	1.29	1739.40	1733	9	7.03E-03	72.7
39	0	911.47*	272	67	1.49	1822.54	1815	16	1.51E-01	9.1
40	5	931.23	10	14	1.46	1862.08	1860	12	5.62E-03	58.6
41	5	934.35	22	28	1.71	1868.31	1860	12	1.25E-02	39.4
42	2	965.02	69	25	2.09	1929.69	1923	27	3.83E-02	19.4
43	2	969.20	172	18	1.76	1938.05	1923	27	9.55E-02	9.1
44	0	1014.99	21	17	3.12	2029.68	2023	12	1.19E-02	44.8
45	0	1024.12	18	13	1.45	2047.96	2042	11	1.01E-02	45.8
46	0	1037.57	9	27	3.89	2074.89	2063	13	4.83E-03	131.7
47	0	1089.53	15	10	1.85	2178.88	2175	8	8.52E-03	43.7
48	0	1100.22	15	29	1.55	2200.26	2192	12	8.33E-03	77.2
49	0	1121.03	111	46	1.58	2241.92	2235	16	6.18E-02	17.2
50	0	1201.38	12	22	1.33	2402.76	2398	9	6.91E-03	73.9
51	0	1239.11	45	49	1.85	2478.27	2469	14	2.48E-02	36.6
52	0	1262.03	41	0	4.75	2524.17	2517	16	2.28E-02	15.6
53	0	1282.81	32	24	1.98	2565.77	2557	19	1.77E-02	45.9
54	0	1378.34	18	12	0.79	2757.03	2749	12	9.91E-03	45.6
55	0	1461.24*	504	25	1.94	2923.02	2916	15	2.80E-01	5.0

Sample ID : DP001

Acquisition date : 6-JUL-2001 14:01:49

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
56	0	1478.50	9	6	0.85	2957.59	2952	9	5.11E-03	59.7	
57	0	1511.45	24	10	4.69	3023.56	3014	20	1.33E-02	38.2	
58	0	1590.97	55	26	6.51	3182.82	3171	26	3.06E-02	28.7	
59	0	1621.76	14	4	1.96	3244.49	3240	8	7.84E-03	36.1	
60	0	1694.74	9	2	1.38	3390.67	3387	8	4.90E-03	43.9	
61	0	1730.06	30	3	3.61	3461.43	3455	13	1.65E-02	22.2	
62	0	1765.06*	122	11	1.64	3531.55	3524	15	6.76E-02	10.9	
63	0	2103.47*	23	5	1.82	4209.65	4204	11	1.25E-02	30.0	
64	0	2204.03	34	0	3.99	4411.21	4405	13	1.89E-02	17.1	
65	0	2447.89	17	0	1.54	4900.12	4892	13	9.44E-03	24.3	
66	0	2451.57	7	2	1.03	4907.50	4904	7	3.61E-03	51.2	
67	0	2614.27*	114	4	1.39	5233.77	5226	16	6.35E-02	10.7	

Flag: "*" = Peak area was modified by background subtraction

Configuration : DKA200:[GAMMA.SCUSR.ARCHIVE]SMP_DP002_GE2_FVSU_69937.CNF;1

---- Sample Information ----

Sample Title : Dusable Park
 Sample ID : DP002 Sample Quantity : 1.26920E+03 gram
 Sample Type : Sample Geometry :
 Sample Number : 69937 Spctrm Collector : RAY LANCASTER
 Analyzed By :

AREA B

---- Sample Decay/Count Information ----

Sample Date : 6-JUL-2001 00:00:00. Acquisition date : 6-JUL-2001 13:26:52.
 Decay time : 0 13:26:52.16 % dead time : 0.2%
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:03.74

---- Detector Parameters ----

Energy cal. time : 13-MAR-2001 08:04:40 Energy cal. oper.: RAY LANCASTER
 Detector name : GE2 Counting geometry: FVSU
 Effic. cal. time : 13-MAR-2001 13:14:45 Effic. cal. oper.: RAY LANCASTER

Combined Activity-MDA Report

---- Identified Nuclides ----

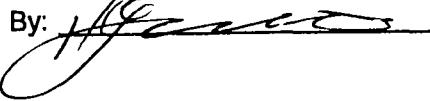
Nuclide	Activity (pCi/gram)	Act error	MDA (pCi/gram)	MDA error	Act/MDA	
K-40	7.463E+00	9.452E-01	4.283E-01	0.000E+00	17.423	
TL-208	1.964E+00	4.409E-01	5.806E-02	0.000E+00	33.836	
PB-210	9.098E-01	1.223E+00	1.637E+00	0.000E+00	0.556	
BI-212	3.238E+00	1.956E+00	4.863E-01	0.000E+00	6.657	
PB-212	6.242E+00	1.732E-01	9.897E-02	0.000E+00	63.069	
BI-214	7.114E-01	1.086E-01	1.068E-01	0.000E+00	6.662	0.71
PB-214	7.642E-01	1.109E-01	1.196E-01	0.000E+00	6.390	
AC-2 ⁻	5.750E+00	2.515E-01	1.531E-01	0.000E+00	37.563	5.75
TH-232	8.317E-01	1.205E+00	9.940E-01	0.000E+00	0.837	
U-235	1.580E-01	7.442E-02	8.533E-02	0.000E+00	1.852	
						6.46

---- Non-Identified Nuclides ----

Nuclide	Key-Line				
	Activity (pCi/gram)	K.L.	Act error	MDA (pCi/gram)	MDA error
PA-234	5.193E-01		2.883E+00	4.766E+00	0.000E+00 0.109

Reviewed

Date: 7/6/01

By: 

Nuclide Type: Natural

Uncorrected Decay Corr 2-Sigma

Nuclide	Energy	%Abn	%Eff	pCi/gram	pCi/gram	*Error	Status
K-40	1460.81	10.67*	5.910E-01	7.463E+00	7.463E+00	12.67	OK

Final Mean for 1 Valid Peaks = 7.463E+00 +/- 9.452E-01 (12.67%)

TL-208	277.35	6.80	2.293E+00	1.631E+00	1.631E+00	41.97	OK
	583.14	84.20*	1.292E+00	1.835E+00	1.835E+00	6.26	<<WM Interf
	860.37	12.46	9.167E-01	2.201E+00	2.201E+00	26.19	OK

Final Mean for 2 Valid Peaks = 1.964E+00 +/- 4.409E-01 (22.45%)

PB-210	46.50	4.05*	2.019E+00	9.098E-01	9.098E-01	134.37	OK
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Final Mean for 1 Valid Peaks = 9.098E-01 +/- 1.223E+00 (134.37%)

BI-212	727.17	11.80*	1.066E+00	3.630E+00	3.630E+00	15.88	<<WM Interf
	1078.62	0.95	7.502E-01	-----	Line Not Found	-----	Absent
	1620.62	2.75	5.543E-01	3.238E+00	3.238E+00	60.41	OK

Final Mean for 1 Valid Peaks = 3.238E+00 +/- 1.956E+00 (60.41%)

PB-212	115.19	0.60	3.710E+00	6.883E+00	6.883E+00	82.48	OK
	238.63	44.60*	2.540E+00	6.241E+00	6.241E+00	2.80	OK
	300.09	3.41	2.170E+00	6.278E+00	6.278E+00	20.94	OK

Final Mean for 3 Valid Peaks = 6.242E+00 +/- 1.732E-01 (2.77%)

BI-214	609.31	46.30*	1.244E+00	7.020E-01	7.020E-01	17.74	OK
	768.36	5.04	1.015E+00	1.065E+00	1.065E+00	77.48	OK
	1120.29	15.10	7.262E-01	8.055E-01	8.055E-01	39.54	OK
	1238.11	5.94	6.685E-01	-----	Line Not Found	-----	Absent
	1377.67	4.11	6.158E-01	-----	Line Not Found	-----	Absent
	1764.49	15.80	5.314E-01	6.174E-01	6.174E-01	54.13	OK
	2204.22	4.98	5.061E-01	-----	Line Not Found	-----	Absent

Final Mean for 4 Valid Peaks = 7.114E-01 +/- 1.086E-01 (15.27%)

AC-228	93.35	3.50	3.825E+00	7.088E+00	7.088E+00	14.94	<<WM Interf
	209.28	4.40	2.766E+00	5.570E+00	5.570E+00	20.62	OK
	338.32	11.40	1.989E+00	5.869E+00	5.869E+00	8.74	OK
	583.20	0.14	1.292E+00	1.104E+03	1.104E+03	6.26	<<WM Interf
	727.00	0.78	1.066E+00	5.490E+01	5.490E+01	15.88	<<WM Interf
	911.07	27.70*	8.708E-01	5.703E+00	5.703E+00	6.62	OK
	969.11	16.60	8.241E-01	5.752E+00	5.752E+00	8.43	OK
	1459.30	1.00	5.914E-01	7.957E+01	7.957E+01	12.67	<<WM Interf

Final Mean for 4 Valid Peaks = 5.750E+00 +/- 2.515E-01 (4.37%)

TH-234	63.29	3.39*	3.246E+00	8.317E-01	8.317E-01	144.91	OK
	92.59	4.49	3.824E+00	5.531E+00	5.531E+00	14.94	<<WM Interf

Final Mean for 1 Valid Peaks = 8.317E-01 +/- 1.205E+00 (144.91%)

Nuclide Type: Natural

Uncorrected Decay Corr 2-Sigma

Nuclide	Energy	%Abn	%Eff	pCi/gram	pCi/gram	%Error	Status
U-235	93.35	4.50	3.825E+00	5.513E+00	5.513E+00	14.94	<<WM Interf
	143.76	13.65*	3.412E+00	-----	Line Not Found	-----	Absent
	163.35	7.12	3.199E+00	-----	Line Not Found	-----	Absent
	185.71	54.00	2.975E+00	1.580E-01	1.580E-01	47.09	OK

Final Mean for 1 Valid Peaks = 1.580E-01 +/- 7.442E-02 (47.09%)

Nuclide Type: Narural

Uncorrected Decay Corr 2-Sigma

Nuclide	Energy	%Abn	%Eff	pCi/gram	pCi/gram	%Error	Status
PB-214	241.98	7.49	2.517E+00	4.400E+00	4.400E+00	21.95	OK
	295.21	19.20	2.195E+00	5.519E-01	5.519E-01	36.01	OK
	351.92	37.20*	1.932E+00	7.911E-01	7.911E-01	17.07	OK

Final Mean for 3 Valid Peaks = 7.642E-01 +/- 1.109E-01 (14.52%)

Flag: "*" = Keyline

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	39.92	110	670	1.12	79.62	76	8	6.10E-02	41.9	
2	0	45.78	63	631	0.52	91.33	88	7	3.49E-02	67.2	
3	0	57.63	85	789	1.19	115.02	113	5	4.71E-02	50.8	
4	0	63.06	77	1236	0.98	125.89	124	6	4.30E-02	72.5	
5	0	67.95	118	1048	1.49	135.66	134	5	6.57E-02	42.1	
6	2	74.76*	1945	1548	0.94	149.27	145	16	1.08E+00	3.8	2.10E+00
7	0	77.04*	3078	1206	0.96	153.82	145	16	1.71E+00	2.6	
8	2	84.42*	353	1097	1.22	168.58	165	27	1.96E-01	16.2	1.37E+00
9	2	87.14*	1163	1056	1.17	174.01	165	27	6.46E-01	5.5	
10	2	89.85	795	875	1.06	179.41	165	27	4.42E-01	7.0	
11	2	93.26	802	974	1.24	186.23	165	27	4.46E-01	7.5	
12	0	99.36	286	1180	1.14	198.44	194	10	1.59E-01	23.3	
13	0	105.46	263	1119	1.00	210.63	206	9	1.46E-01	23.7	
14	0	115.47	130	906	1.54	230.64	226	8	7.22E-02	41.2	
15	0	128.85	391	1010	1.07	257.37	254	8	2.17E-01	15.0	
16	0	154.04	144	801	0.82	307.73	304	8	8.01E-02	35.1	
17	0	185.90	215	719	1.55	371.40	368	9	1.19E-01	23.5	
18	0	209.35	573	829	1.08	418.29	413	10	3.18E-01	10.3	
19	3	238.61	5977	369	1.09	476.78	469	19	3.32E+00	1.4	2.29E+00
20	3	241.09	701	432	1.46	481.75	469	19	3.90E-01	11.0	
21	0	270.27	423	423	1.11	540.08	534	11	2.35E-01	10.6	
22	0	277.79	215	481	1.20	555.10	551	11	1.19E-01	21.0	
23	0	295.13	197	352	1.16	589.78	586	8	1.09E-01	18.0	
24	0	300.17	393	366	1.16	599.85	595	10	2.18E-01	10.5	
25	0	327.99	346	376	1.33	655.48	651	11	1.92E-01	12.1	
26	0	338.34	1125	370	1.27	676.17	671	10	6.25E-01	4.4	
27	0	351.83	481	301	1.11	703.14	696	12	2.67E-01	8.5	
28	0	392.98	6	257	0.74	785.41	782	10	3.58E-03469.1		
29	0	409.83	140	292	1.16	819.11	813	12	7.76E-02	25.9	

30	0	452.65	19	151	0.82	904.73	903	8	1.06E-02	113.6
31	0	463.15	343	244	1.23	925.72	919	14	1.90E-01	11.1
32	0	510.71*	523	286	1.55	1020.84	1014	16	2.91E-01	8.5
33	0	562.72	88	155	2.03	1124.86	1119	13	4.91E-02	31.0
34	0	583.29	1687	245	1.46	1166.00	1160	14	9.37E-01	3.1
35	0	609.41	342	145	1.58	1218.25	1213	12	1.90E-01	8.9
36	0	628.09	38	134	4.71	1255.61	1250	13	2.10E-02	65.2
37	0	702.07	19	84	1.64	1403.59	1400	7	1.08E-02	81.4
38	0	727.44	386	130	1.58	1454.33	1448	13	2.14E-01	7.9
39	0	755.44	47	97	1.50	1510.35	1507	10	2.59E-02	42.0
40	0	768.29	46	78	0.80	1536.07	1532	10	2.56E-02	38.7
41	0	772.73	87	77	1.46	1544.93	1541	12	4.84E-02	22.6
42	0	784.67	107	146	4.01	1568.83	1556	20	5.95E-02	29.2
43	0	795.36	221	78	1.63	1590.21	1583	14	1.23E-01	10.9
44	0	807.50*	12	77	1.49	1614.51	1607	10	6.63E-03	141.8
45	1	835.87	74	56	1.85	1671.26	1653	33	4.11E-02	23.1
46	1	840.61	42	44	1.85	1680.76	1653	33	2.35E-02	38.2
47	0	861.15	213	96	1.79	1721.85	1714	18	1.18E-01	13.1
48	0	904.76	32	63	1.55	1809.10	1802	14	1.76E-02	56.0
49	0	911.41*	1163	70	1.67	1822.42	1815	14	6.46E-01	3.3
50	1	965.14	209	28	1.93	1929.93	1914	32	1.16E-01	9.3
51	0	969.25	665	33	1.63	1938.15	1914	32	3.70E-01	4.2
52	0	1041.94	29	28	2.15	2083.63	2079	11	1.61E-02	39.7
53	0	1071.18	38	65	11.15	2142.14	2128	25	2.12E-02	60.5
54	0	1120.72	75	37	1.14	2241.30	2237	11	4.15E-02	19.8
55	0	1260.15	8	22	0.83	2520.40	2517	8	4.27E-03	112.0

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
56	0	1328.13	16	10	1.27	2656.49	2652	9	8.93E-03	44.6	
57	0	1339.75	32	24	4.54	2679.77	2672	14	1.79E-02	38.5	
58	0	1344.88	19	1	1.64	2690.03	2687	7	1.03E-02	25.9	
59	0	1435.28	13	5	1.29	2871.04	2867	7	7.27E-03	39.9	
60	0	1461.24*	398	35	1.97	2923.03	2913	21	2.21E-01	6.3	
61	0	1496.26	27	19	1.68	2993.15	2987	12	1.51E-02	36.7	
62	0	1512.54	25	11	3.45	3025.76	3020	11	1.39E-02	32.6	
63	0	1543.21	14	6	4.17	3087.18	3080	12	7.83E-03	43.7	
64	2	1588.78	113	20	2.38	3178.43	3172	20	6.26E-02	12.3	1.50E+00
65	2	1593.18	63	10	1.76	3187.26	3172	20	3.53E-02	16.3	
66	0	1599.12	9	7	1.51	3199.16	3194	10	4.93E-03	66.4	
67	1	1621.51	42	26	2.28	3243.99	3236	32	2.32E-02	30.2	1.04E+00
68	1	1630.86	54	16	2.28	3262.72	3236	32	3.01E-02	18.5	
69	0	1639.68	28	15	0.87	3280.38	3270	20	1.58E-02	38.3	
70	0	1674.44	9	8	0.72	3350.02	3341	12	4.79E-03	77.0	
71	0	1706.99	11	12	4.80	3415.21	3405	16	6.26E-03	74.8	
72	0	1729.64	24	8	0.93	3460.59	3454	14	1.31E-02	35.1	
73	0	1765.59*	44	23	1.26	3532.60	3528	12	2.43E-02	27.1	
74	0	1872.86	15	7	0.91	3747.52	3738	16	8.13E-03	50.2	
75	0	2051.89	10	6	1.48	4106.26	4100	11	5.28E-03	57.8	
76	0	2068.33	12	11	1.54	4139.22	4131	15	6.65E-03	67.4	
77	3	2102.92*	16	19	2.27	4208.55	4204	20	8.90E-03	72.2	9.10E-01
78	3	2104.03*	64	20	3.01	4210.77	4204	20	3.57E-02	21.2	
79	0	2121.81	15	2	1.53	4246.41	4241	11	8.09E-03	34.0	
80	0	2135.46	8	3	3.25	4273.76	4267	11	4.60E-03	52.1	
81	0	2285.61	19	7	3.73	4574.76	4568	13	1.03E-02	36.7	
82	0	2438.52	3	11	0.45	4881.33	4874	11	1.67E-03	22.1	
83	0	2458.17	8	23	4.40	4920.73	4908	15	4.17E-03	142.6	
84	0	2614.39*	567	10	2.81	5234.03	5224	20	3.15E-01	4.5	

Flag: "*" = Peak area was modified by background subtraction

Configuration : DKA200:[GAMMA.SCUSR.ARCHIVE] SMP_DP003_GE2_FVSU_69930.CNF;1

---- Sample Information ----

Sample Title : Dusable Park
 Sample ID : DP003 Sample Quantity : 1.19770E+03 gram
 Sample Type : Sample Geometry :
 Sample Number : 69930 Spctrm Collector : RAY LANCASTER
 Analyzed By :

AREA C

---- Sample Decay/Count Information ----

Sample Date : 6-JUL-2001 00:00:00. Acquisition date : 6-JUL-2001 12:55:16.
 Decay time : 0 12:55:16.52 % dead time : 0.1%
 Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:02.12

---- Detector Parameters ----

Energy cal. time : 13-MAR-2001 08:04:40 Energy cal. oper.: RAY LANCASTER
 Detector name : GE2 Counting geometry: FVSU
 Effic cal. time : 13-MAR-2001 13:14:45 Effic. cal. oper.: RAY LANCASTER

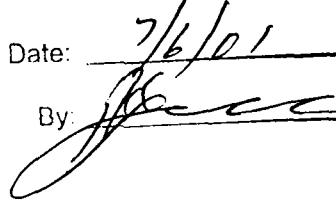
Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/gram)	Act error	MDA (pCi/gram)	MDA error	Act/MDA	
K-40	3.589E+00	5.475E-01	2.930E-01	0.000E+00	12.251	
PL-208	5.871E-01	2.202E-01	3.938E-02	0.000E+00	14.909	
PB-210	1.241E+00	9.786E-01	1.093E+00	0.000E+00	1.136	
BI-212	1.021E+00	2.978E-01	3.392E-01	0.000E+00	3.011	
PB-212	1.770E+00	9.798E-02	6.298E-02	0.000E+00	28.106	
BI-214	7.803E-01	9.471E-02	7.912E-02	0.000E+00	9.862	
PB-214	8.314E-01	8.852E-02	8.291E-02	0.000E+00	10.028	
AC-2	1.774E+00	1.570E-01	1.016E-01	0.000E+00	17.459	
PA-234	6.314E+00	4.840E+00	3.561E+00	0.000E+00	1.773	
TH-234	1.575E+00	1.102E+00	6.663E-01	0.000E+00	2.364	
U-235	8.364E-02	5.501E-02	5.492E-02	0.000E+00	1.523	
					0.78	
					1.77	
					2.55	

Reviewed

Date: 7/6/01

By: MGR
7-9-01

Nuclide Type: Natural

Uncorrected Decay Corr 2-Sigma

Nuclide	Energy	%Abn	%Eff	pCi/gram	pCi/gram	%Error	Status
K-40	1460.81	10.67*	5.910E-01	3.589E+00	3.589E+00	15.25	OK

Final Mean for 1 Valid Peaks = 3.589E+00 +/- 5.475E-01 (15.25%)

TL-208	277.35	6.80	2.293E+00	5.007E-01	5.007E-01	86.05	OK
	583.14	84.20*	1.292E+00	5.832E-01	5.832E-01	10.77	<<WM Interf
	860.37	12.46	9.167E-01	6.177E-01	6.177E-01	41.48	OK

Final Mean for 2 Valid Peaks = 5.871E-01 +/- 2.202E-01 (37.51%)

PB-210	46.50	4.05*	2.019E+00	1.241E+00	1.241E+00	78.83	OK
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Final Mean for 1 Valid Peaks = 1.241E+00 +/- 9.786E-01 (78.83%)

BI-212	727.17	11.80*	1.066E+00	1.021E+00	1.021E+00	29.16	OK
	1078.62	0.95	7.502E-01	-----	Line Not Found	-----	Absent
	1620.62	2.75	5.543E-01	-----	Line Not Found	-----	Absent

Final Mean for 1 Valid Peaks = 1.021E+00 +/- 2.978E-01 (29.16%)

PB-212	115.19	0.60	3.710E+00	-----	Line Not Found	-----	Absent
	238.63	44.60*	2.540E+00	1.762E+00	1.762E+00	5.60	OK
	300.09	3.41	2.170E+00	2.401E+00	2.401E+00	35.89	OK

Final Mean for 2 Valid Peaks = 1.770E+00 +/- 9.798E-02 (5.54%)

BI-214	609.31	46.30*	1.244E+00	7.741E-01	7.741E-01	14.01	OK
	768.36	5.04	1.015E+00	1.030E+00	1.030E+00	88.66	OK
	1120.29	15.10	7.262E-01	7.791E-01	7.791E-01	39.46	OK
	1238.11	5.94	6.685E-01	9.787E-01	9.787E-01	59.92	OK
	1377.67	4.11	6.158E-01	3.963E-01	3.963E-01	164.53	OK
	1764.49	15.80	5.314E-01	8.406E-01	8.406E-01	38.70	OK
	2204.22	4.98	5.061E-01	-----	Line Not Found	-----	Absent

Final Mean for 6 Valid Peaks = 7.803E-01 +/- 9.471E-02 (12.14%)

AC-228	93.35	3.50	3.825E+00	2.460E+00	2.460E+00	27.15	<<WM Interf
	209.28	4.40	2.766E+00	1.260E+00	1.260E+00	48.03	OK
	338.32	11.40	1.989E+00	1.584E+00	1.584E+00	22.44	OK
	583.20	0.14	1.292E+00	3.508E+02	3.508E+02	10.77	<<WM Interf
	727.00	0.78	1.066E+00	1.545E+01	1.545E+01	29.16	<<WM Interf
	911.07	27.70*	8.708E-01	1.855E+00	1.855E+00	12.02	OK
	969.11	16.60	8.241E-01	1.903E+00	1.903E+00	16.78	OK
	1459.30	1.00	5.914E-01	3.827E+01	3.827E+01	15.25	<<WM Interf

Final Mean for 4 Valid Peaks = 1.774E+00 +/- 1.570E-01 (8.85%)

TH-234	63.29	3.39*	3.246E+00	1.575E+00	1.575E+00	69.99	OK
	92.59	4.49	3.824E+00	1.920E+00	1.920E+00	27.15	<<WM Interf

Final Mean for 1 Valid Peaks = 1.575E+00 +/- 1.102E+00 (69.99%)

Sample ID : DP003

Acquisition date : 6-JUL-2001 12:55:16

Nuclide Type: Natural

Uncorrected Decay Corr 2-Sigma

Nuclide	Energy	%Abn	%Eff	pCi/gram	pCi/gram	%Error	Status
U-235	93.35	4.50	3.825E+00	1.913E+00	1.913E+00	27.15	<<WM Interf
	143.76	13.65*	3.412E+00	-----	Line Not Found	-----	Absent
	163.35	7.12	3.199E+00	-----	Line Not Found	-----	Absent
	185.71	54.00	2.975E+00	8.364E-02	8.364E-02	65.77	OK

Final Mean for 1 Valid Peaks = 8.364E-02 +/- 5.501E-02 (65.77%)

Nuclide Type: Narural

Uncorrected Decay Corr 2-Sigma

Nuclide	Energy	%Abn	%Eff	pCi/gram	pCi/gram	%Error	Status
PB-214	241.98	7.49	2.517E+00	2.081E+00	2.081E+00	29.29	OK
	295.21	19.20	2.195E+00	8.248E-01	8.248E-01	20.31	OK
	351.92	37.20*	1.932E+00	7.964E-01	7.964E-01	13.29	OK

Final Mean for 3 Valid Peaks = 8.314E-01 +/- 8.852E-02 (10.65%)

Nuclide Type: NATURAL

Uncorrected Decay Corr 2-Sigma

Nuclide	Energy	%Abn	%Eff	pCi/gram	pCi/gram	%Error	Status
PA-234	1001.03	0.99*	8.008E-01	6.314E+00	6.314E+00	76.65	OK

Final Mean for 1 Valid Peaks = 6.314E+00 +/- 4.840E+00 (76.65%)

Flag: "*" = Keyline

Pk	#	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.22	81	313	1.02	92.22	89	8	4.50E-02	39.4	
2	0	52.83	63	366	2.07	105.43	102	8	3.48E-02	54.1	
3	0	63.31	138	679	1.50	126.37	122	9	7.69E-02	35.0	
4	3	72.45*	93	299	1.30	144.65	143	15	5.17E-02	27.0	9.00E+00
5	3	74.80*	787	582	1.32	149.35	143	15	4.37E-01	6.4	
6	3	77.03*	975	412	0.94	153.79	143	15	5.42E-01	4.7	
7	2	84.12*	210	255	1.22	167.97	165	26	1.17E-01	13.2	1.63E+00
8	2	87.14*	367	358	1.22	174.01	165	26	2.04E-01	10.1	
9	2	89.94	237	308	0.98	179.60	165	26	1.32E-01	13.4	
10	2	92.99	263	360	1.24	185.69	165	26	1.46E-01	13.6	
11	0	99.61	67	318	1.11	198.93	196	7	3.74E-02	45.7	
12	0	105.10	64	379	1.16	209.91	206	8	3.58E-02	53.8	
13	0	128.94	76	374	1.04	257.55	254	8	4.24E-02	45.4	
14	0	154.99	62	288	1.77	309.63	305	8	3.46E-02	49.4	
15	0	186.02	107	323	1.30	371.65	367	10	5.96E-02	32.9	
16	0	209.16	122	245	0.87	417.92	414	8	6.80E-02	24.0	
17	4	238.63	1592	146	1.13	476.82	470	18	8.85E-01	2.8	7.21E-01
18	4	241.52	313	169	1.79	482.60	470	18	1.74E-01	14.6	
19	0	269.70	211	138	1.07	538.93	533	12	1.17E-01	13.1	
20	0	277.87	62	172	1.06	555.28	550	11	3.46E-02	43.0	

21	0	295.27	277	147	1.15	590.06	585	10	1.54E-01	10.2
22	0	300.42	142	134	1.51	600.34	596	11	7.87E-02	17.9
23	0	327.91	100	154	1.57	655.31	648	13	5.53E-02	27.7
24	0	338.29	286	177	1.21	676.07	670	13	1.59E-01	11.2
25	0	351.85	457	132	1.20	703.17	698	10	2.54E-01	6.6
26	0	409.73	47	72	1.30	818.92	814	10	2.62E-02	36.7
27	0	441.39	14	36	1.01	882.21	878	6	7.67E-03	75.5
28	0	463.14	76	67	1.10	925.71	921	9	4.21E-02	22.6
29	0	468.03	48	55	3.89	935.49	930	13	2.65E-02	36.6
30	0	487.21	15	33	1.44	973.84	970	6	8.46E-03	64.8
31	0	510.76*	154	89	1.27	1020.94	1015	13	8.57E-02	15.6
32	0	538.37	27	54	3.76	1076.16	1067	12	1.51E-02	57.4
33	0	583.33	506	52	1.32	1166.08	1160	14	2.81E-01	5.4
34	0	609.39	356	67	1.15	1218.21	1213	12	1.98E-01	7.0
35	0	663.33	12	72	0.89	1326.09	1319	10	6.69E-03	136.9
36	0	665.87	17	28	1.53	1331.18	1328	7	9.44E-03	57.0
37	0	688.83	32	29	3.70	1377.10	1370	14	1.81E-02	40.3
38	3	727.35	102	46	1.60	1454.15	1450	34	5.69E-02	14.6
39	3	731.97	22	59	2.15	1463.39	1450	34	1.19E-02	77.3
40	0	768.46	42	66	3.72	1536.39	1530	15	2.33E-02	44.3
41	0	786.51	28	25	1.87	1572.51	1568	8	1.56E-02	36.6
42	0	795.77	55	68	1.41	1591.04	1583	16	3.03E-02	36.4
43	1	830.64	28	22	1.85	1660.81	1654	19	1.57E-02	34.3
44	1	835.18	18	14	1.85	1669.88	1654	19	9.80E-03	42.6
45	0	852.78	10	25	5.08	1705.10	1696	16	5.75E-03	110.7
46	0	860.73	56	19	0.92	1721.00	1712	14	3.13E-02	20.7
47	0	867.44	24	36	6.47	1734.44	1726	18	1.33E-02	62.2
48	0	911.54*	357	18	1.83	1822.67	1816	16	1.98E-01	6.0
49	2	964.95	60	33	2.13	1929.54	1923	24	3.32E-02	24.1
50	2	969.16	208	28	1.70	1937.97	1923	24	1.15E-01	8.4
51	0	1003.77	40	26	6.99	2007.22	1995	26	2.22E-02	38.3
52	0	1094.12	7	23	1.13	2188.05	2183	10	3.66E-03	141.1
53	0	1102.37	11	5	1.44	2204.57	2201	9	5.97E-03	47.5
54	0	1121.01	68	27	1.53	2241.89	2237	14	3.79E-02	19.7
55	0	1238.52	31	13	2.05	2477.10	2470	13	1.72E-02	30.0

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
56	0	1254.37	20	11	3.64	2508.83	2501	15	1.11E-02	42.7	
57	0	1270.15	15	7	1.46	2540.41	2535	10	8.59E-03	41.3	
58	0	1282.10	17	20	0.73	2564.33	2557	13	9.17E-03	60.4	
59	0	1378.28	8	10	2.78	2756.91	2750	9	4.44E-03	82.3	
60	0	1461.20*	181	0	1.95	2922.94	2916	16	1.00E-01	7.6	
61	0	1509.29	14	3	4.61	3019.24	3012	12	7.68E-03	36.9	
62	0	1513.36	7	3	1.76	3027.40	3023	7	3.72E-03	59.9	
63	0	1588.68	30	0	1.87	3178.23	3174	8	1.67E-02	18.3	
64	0	1592.94	18	9	1.99	3186.78	3183	9	1.00E-02	38.2	
65	0	1641.43	4	4	0.79	3283.89	3278	8	2.43E-03	91.4	
66	0	1729.38	20	3	2.60	3460.07	3452	14	1.11E-02	29.8	
67	0	1764.88*	56	15	1.87	3531.19	3525	12	3.13E-02	19.3	
68	0	1848.39	10	0	1.18	3698.50	3694	9	5.56E-03	31.6	
69	0	2038.95	12	0	2.38	4080.33	4073	12	6.67E-03	28.9	
70	0	2103.73*	25	3	2.13	4210.18	4204	12	1.39E-02	25.2	
71	0	2304.97	5	7	1.06	4613.56	4602	13	2.50E-03	126.0	
72	0	2614.29*	181	0	2.54	5233.82	5226	15	1.01E-01	7.7	

Flag: "*" = Peak area was modified by background subtraction